



# Human Frontier Science Program

Broadening your horizons – international  
collaboration in the life sciences.

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Director of Research Grants

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# HFSP Programs



- Fund postdocs to go abroad
- Start-up funds to set up first lab
- Team grants to initiate international collaborations



# HFSP Priorities

HFSP support emphasizes:

- genuine **international** and preferably **intercontinental** scientific collaborations
- novel, **innovative** and **interdisciplinary** approaches to basic research
- scientists who are early in their careers

Don't just tick the boxes, understand the philosophy. It's not called a 'Frontier' program without good reason.



# Scientific Scope of HFSP Funding

**Basic research** focused on understanding the complex mechanisms of living organisms ranging from biological functions at the molecular and cellular level to biological systems including higher cognitive functions and ecosystems

**Investigator driven** – no priority areas

**Not funded** are studies concerned with agricultural production and yield, bioremediation, clinical research (diagnostics, therapy), financial support for research in for profit environments (but collaboration possible)



# Basics - Member Countries/Budget

**HFSP Members:** Australia, Canada, France, Germany, India, Italy, Japan, New Zealand, Norway, Republic of Korea, Singapore, Switzerland, UK, USA & European Commission (on behalf of EU)

**Team leader** must be from a member country

**Annual budget (all programs):** ~ 54 millions USD

**Average grant value:** ~ 1.1 million USD

Approximately **30** new grants each year



Secretariat  
in Strasbourg  
(since 1989)



# Research Grant Teams & Funds

HFSP research grants enable scientists in different countries to collaborate on well focused projects.

## Funding

- \$250,000 per year for a team of 2; \$ 350,000 for a team of 3; \$450,000 for a team of 4 or more (maximum funds) – three year grant. Penalties for team members from the same country.

## Team Size

- Small is beautiful. On average only 2 or 3 teams of 5 reach the final stage each year and of these 1 is funded ([read the guidelines](#))



# Grant Programs

## International Teams

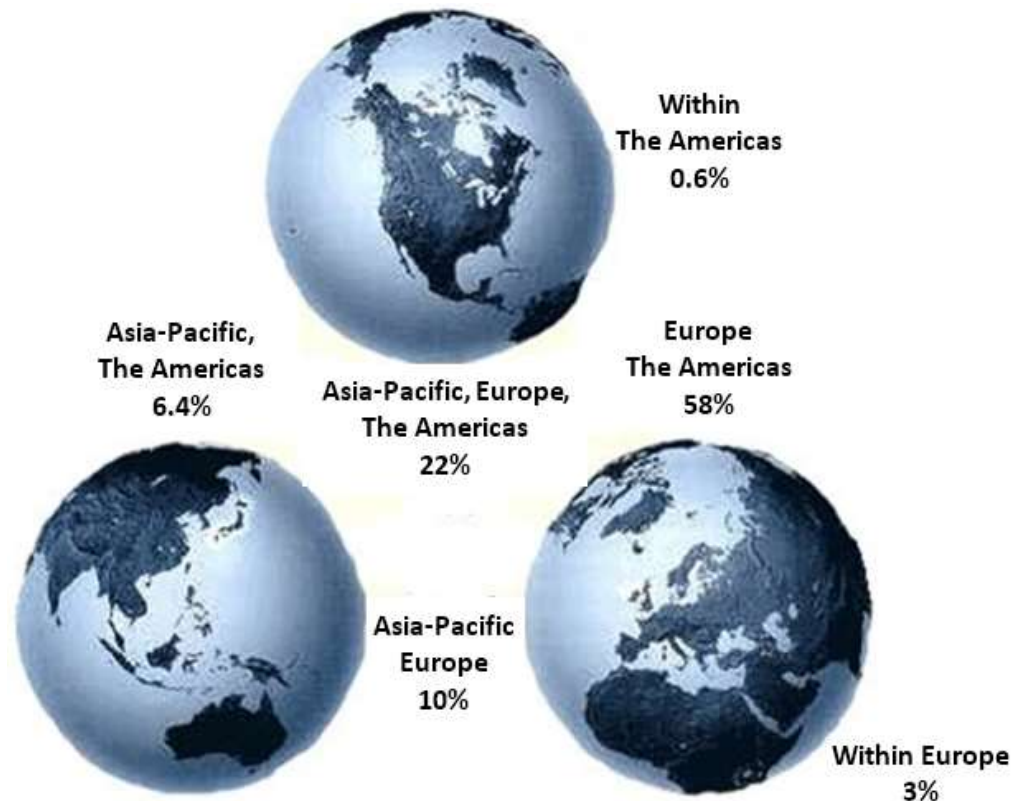
**(All team members must be group leaders)**

- Young Investigator Grants – 5 and 10 rules for all team members:
  - < 5 years from independent position
  - < 10 years from PhD
  - Allowances for parental leave etc. – please **read the guidelines** and enquire if necessary
- Program Grants - everyone else. **Many team leaders and members are in their 30s**





# HFSP Research Grants – Geography



- International, especially **intercontinental** collaborations
- 96.3% of HFSP-funded research grants involve intercontinental collaborations (figures from 2008-2017)
- There are only 1 or 2 invitations for full applications each year to all Europe or all N. America teams.



# HFSP Research Grants – Geography

Mobility of HFSP awardees (> 30% are not in their home countries) and many move during the tenure of their grant.



# Personal benefits of international collaboration

Each country has its own scientific traditions with different ways of organizing research and thinking about and discussing scientific problems.

With HFSP's emphasis on collaboration between disciplines, you will see other scientific approaches to the problems that interest you and will learn how to communicate with other scientists from other disciplines – going from « talking at » to « talking to ».

This experience will broaden your personal scientific skills.



# Career benefits of international collaboration

HFSP awards are highly competitive – the Grant Program has an overall 3 to 4% success rate. Despite this, top scientists around the world compete each year or participate in the review process.

For younger scientists an HFSP award is a recognition by an independent international panel of their quality.

It helps many to negotiate their position and funding in a university or institute and in many countries encourages local or national agencies to start supporting their research.



# Two step selection process

## 1. Letter of intent

1. Submission deadline **March/April** (~900 appl.)
2. Triage (~ 10%)
3. Initial review by Review Committee members
4. Discussion of ~300 promising applications by Selection Committee
5. Invitations (80 to 90) by Selection Committee **(beginning of July)** to submit full applications

## 2. Full applications

1. Submission deadline **mid-September**
2. Reviewed by external reviewers and Review Committee members
3. Recommendations (~32) made by full review committee meeting **end of January**
4. Consideration by Council of Scientists (**early March**)
5. Final approval by Board of Trustees (**late March**)

Committee members at [www.hfsp.org](http://www.hfsp.org)



# HFSP Research Grants

Objectives...

- **...encouraging participation of scientists outside the life sciences** to understand the complex structures and networks that characterize the living state...\*
- **...To stimulate novel, daring ideas** and innovative approaches, **preliminary results are not required** in research grant applications...
- **...Applicants are expected to develop new lines of research** through the collaboration....

\*not applied as strictly in the Young Investigator Grants



# Research grants – good ideas

- Setting up a project with labs bringing in a totally new approach to your research problem – even if ambitious
- Setting up your project with one or two (Young Investigator) or no more than three (Program Grants) other research groups
- Joining a project where there will be clear, ongoing, interactions between team members
- Proposing clear iterations between theoretical and experimental approaches



# Research grants – bad ideas

- Setting up a project with labs working with exactly the same approach
- Setting up a project with more than 4 research groups
- Joining an existing group who have already collaborated extensively and it is not clear what is expected of you
- Joining a project where you are only providing reagents
- Adding a “token” team member – the committee quickly spots ‘add-ons’.





# Research grants – grey areas

- Setting up a project with a colleague who has recently moved from your institute to another country (particularly unfavourable if this is a recent mentor - postdoc set-up) – ‘ongoing’ collaboration
- Setting up a project with colleagues who were in the same institute as PostDocs and/or Graduate students and in the same general area
- From the same ‘lab’ it’s unlikely to work - from different departments it might be considered favorably, depends on the other partners.



# HFSP special features

- HFSP operates in a niche (intercontinentality)
- HFSP programs target a highly specialized group of applicants (interdisciplinarity and innovation)
- Challenge: building new collaborations
- Restricted funding but the awards are prestigious, hence highly competitive



# HFSP Common error

If you submit your regular national application disguised as a team project there's a fair chance that a reviewer will say so at some point.....It may well be first rate science destined for a major journal – but that's not the point of HFSP funding, it will be rejected.



# Practical details

- **Read the guidelines** to get acquainted with the “niche philosophy”
- If in doubt contact the grant office to receive written confirmation that you (or your project) are formally eligible. The best is to send a short e-mail so that your question is clear to you and us.
- Always **consult the FAQ's**
- Read abstracts of recently funded projects before writing the grant (but see next slide – Novelty)



# Novelty

- It is exceptional that a project similar to one funded the previous year will be supported – but it happens occasionally. We don't support 'me too'.
- Something exciting today may be routine next year – we still get a few 'I've got a mouse' projects but they were novel a decade ago.
- If you are really 'frontier', a re-application, possibly with team changes, may be successful in the next round



# The proposal - 1

- You have to convince with your Letter of Intent. Reviewers cannot guess what you have in mind or what you intend to write in a full application
- Write a new proposal each time, do not recycle past proposals to other agencies
- Simple language & style can be very convincing
- Ask somebody else to read it who is not an expert in the field – do they understand your abbreviations intuitively?



Recommended Reading: „The Art of Grantsmanship“



# The proposal - 2

- Do not write at three points in your letter of intent “This **interdisciplinary, international** collaboration brings an **innovative** approach to the problem of .....” That should be obvious from your text!
- If you’ve got little to say in a section, don’t put in empty filler sentences
- In a full application give your intended strategy, but discuss briefly ‘workarounds’ if certain key steps prove technically too difficult



Recommended Reading: „The Art of Grantsmanship“



# Common errors Lols

- Using half of the space for a team member's contribution to say that *"Prof. X of the Department of Politically Correct Disciplines of the Unspoken University of Desertia is a recognised world expert in the field of the analysis of meaningless sentences...He/She studied with a really Big Cheese and has published more than a hundred peer reviewed articles in this area and trained more than forty doctoral students" etc. etc.* Instead say what they do and how they will contribute to this collaboration.
- Listing all of the possible techniques that could be used for this part of the project. Say what the first line of attack is expected to be although if this is risky you should say what you would fall back on.
- Hand waving about X genes in Y species in Z habitats at 'different' temperatures. (if X, Y and Z are all 'several' it's even worse). The reviewers want to know if there is a real 'doable' project here.





# Common errors YIs – Full Applications

- Writing a LoI that is seen in the full application to be essentially the ongoing research of the Principal Applicant.
- Listing all of the possible techniques that could be used in the full application (“shopping list”, “catalogue”, “throwing the toolbox at it”, “laundry list”, “lifetime project”).
- Failing to situate the project in terms of existing research. “They haven’t read the literature”. This is not just from reviewers whose work was not cited.



# The mail reviewers

- We aim for 4 to 5 external reviews which are chosen from the candidates list, those of the HFSP office and the RC members suggestions (6 to 36 requests). As wide geographically as possible.
- One or two negative external reviews will not eliminate an application as long as the other reviewers and the RC members are enthusiastic
- Sometimes applications are 'sunk' by the 'candidates' reviewers. Worse still, in the case of a re-application the candidates often propose the same reviewers.



# Good luck!

## Contact information

Application guidelines and review description: [\*www.hfsp.org\*](http://www.hfsp.org)

Program/Young Investigator Grants: [\*grant@hfsp.org\*](mailto:grant@hfsp.org)



# Fellowship programs

## **Long-Term Fellowships**

Ph.D. in biology – propose different field

## **Cross-Disciplinary Fellowships**

Ph.D. outside life sciences – biology project



# Conditions & Support

- Tenure up to 3 years
- Living allowance (amount depends on the country), travel and possibly child and parental leave allowances
- 3rd year can be used for repatriation to home country
- The final year can be deferred for up to two years
- Success rate ~ 10% (~80 awards per year)

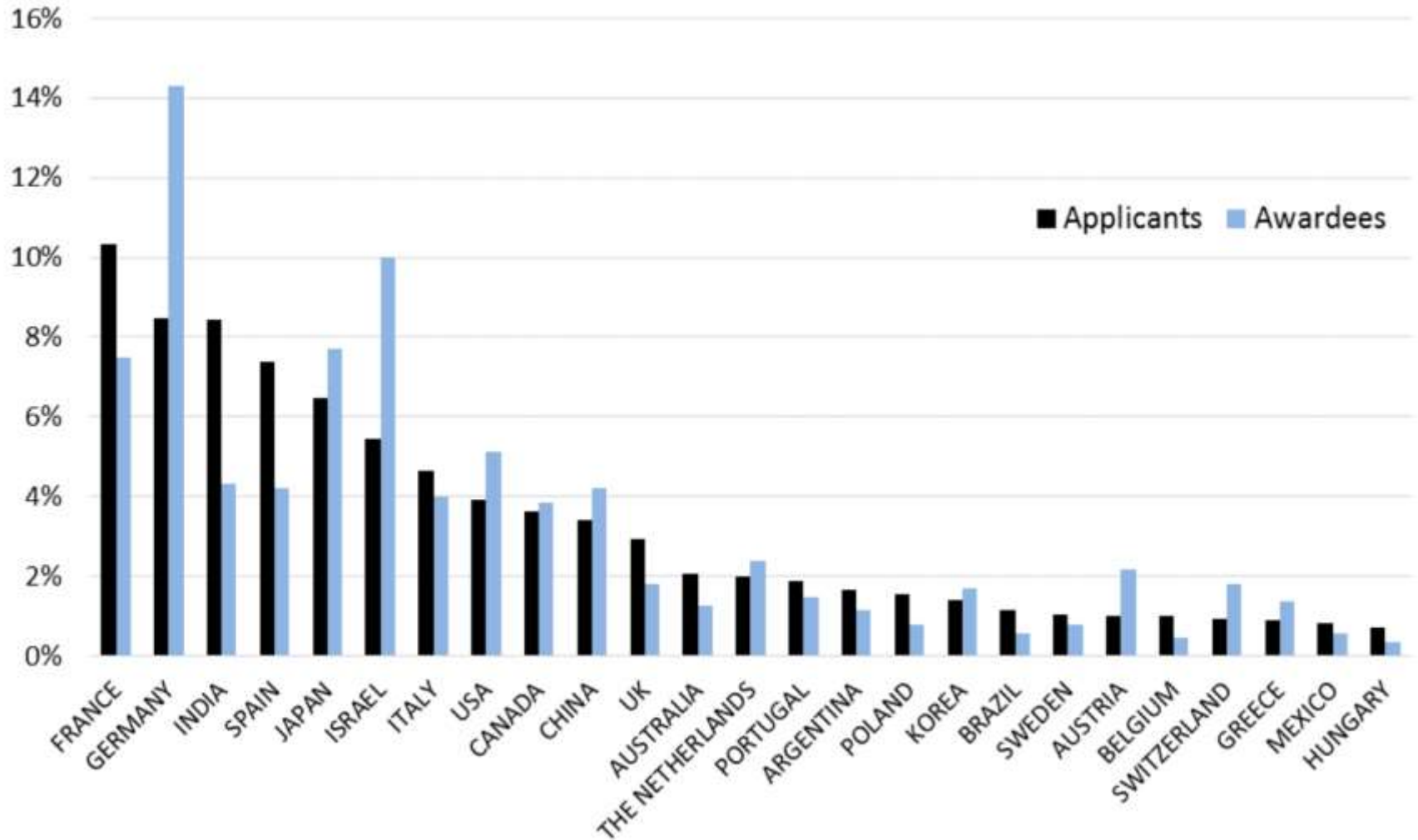


# Fellowship objectives

- Provide international research opportunities
- Broaden expertise / switch fields / learn new theory and methodology
- Address fundamental (basic) questions in the life sciences
- Facilitate research independence
- A competitive fellowship application proposes a basic research project that is creative, frontier, potential to be transformative

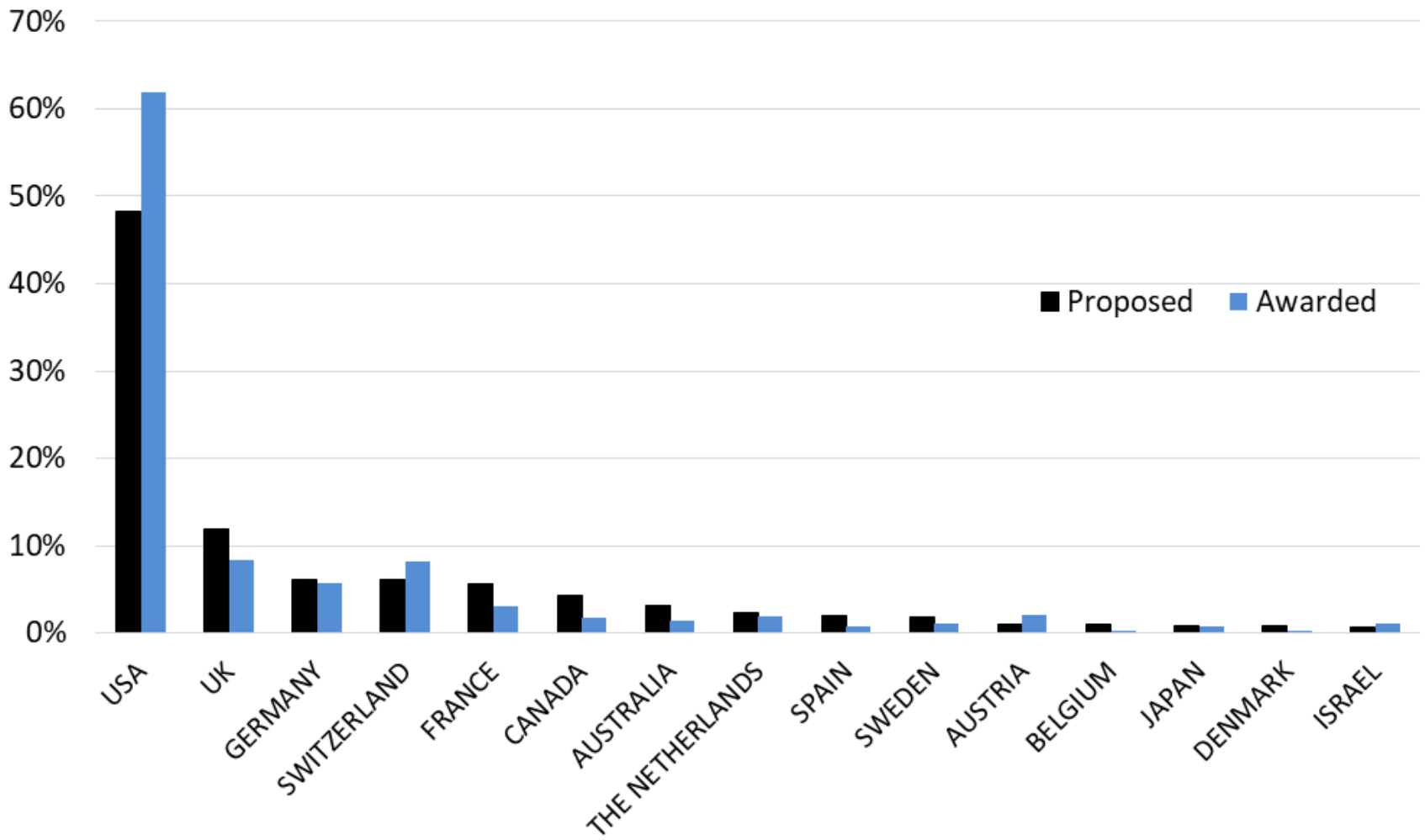


# Nationality (2009 – 2018)





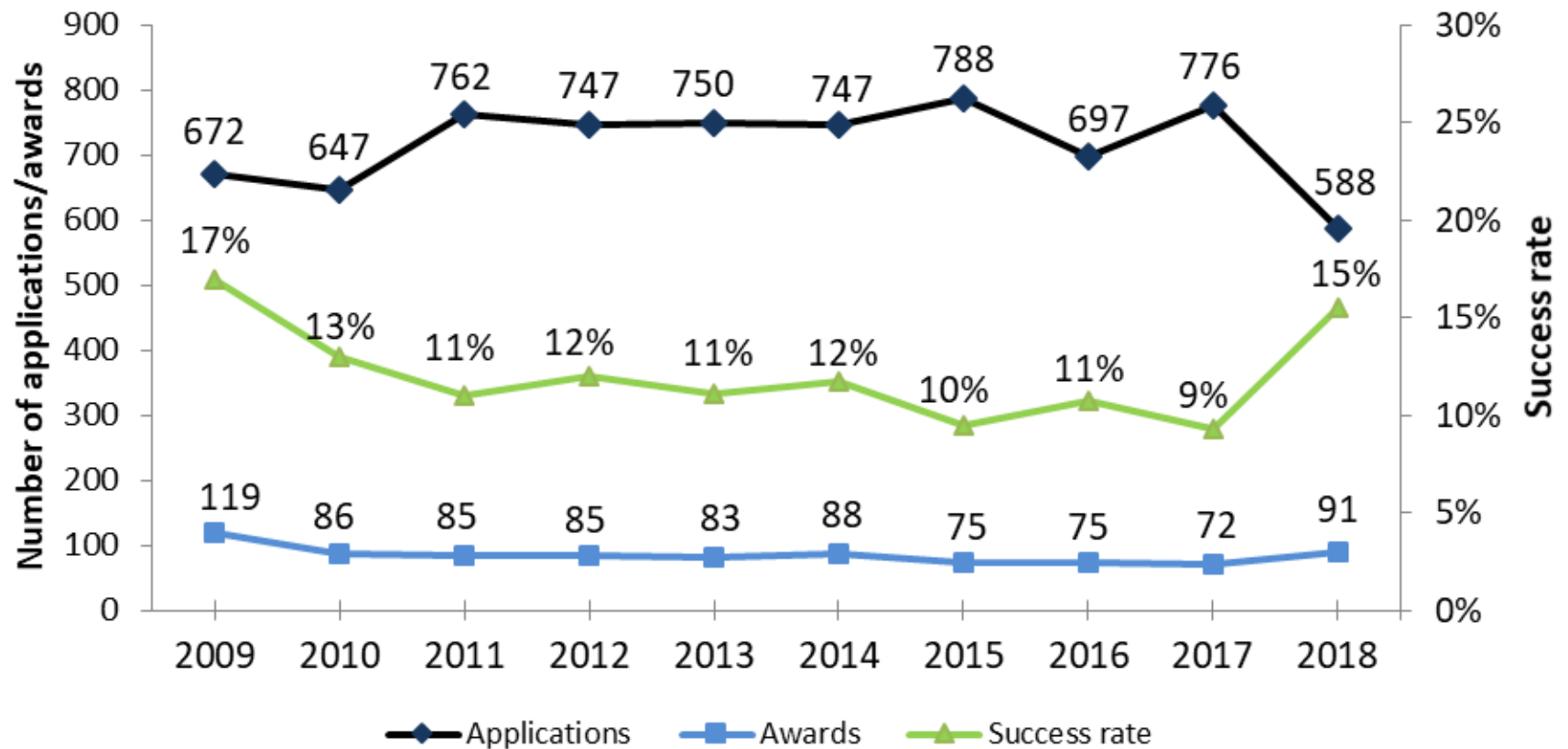
# Host country (2009 - 2018)







# Success Rates





# Deadlines & timelines

Fellowships - annual cycle:

- **Early August** – Registration opens
- **Late August** – application deadline
- **Late March** – competition results announced



# Career Development Awards

- Exclusively open to former HFSP fellows
- 300,000 USD over 3 years
- Funds to help researchers set up their first independent laboratory
- Can be taken up in home country or any HFSP Member country



# Contact information

## Postdoctoral fellowships & Career Development Awards

Director – Dr. Barbara Pauly

*[fellow@hfsp.org](mailto:fellow@hfsp.org)*

*[www.hfsp.org](http://www.hfsp.org)*

